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EXAMINER	
HO, CHUONG T	

ART UNIT	PAPER NUMBER
2616	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/015,959	EGEVANG, KJELD B.	
	Examiner	Art Unit	
	CHUONG T. HO	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 February 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *01 November 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. The amendment filed 02/28/06 have been entered and made of record.

2. Applicant's arguments with respect to claims 1-21 have been considered but are moot in view of the new ground(s) of rejection.

3. Claims 1-21 are pending.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1, 2-10, 11-12, 13-14, 15-17, 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Malagrino et al. (U.S.Patent No. 6,714,985 B1) in view of Crow et al. (U.S.Patent No. 6,453,357 B1).

In the claim 1, Malagrino et al. discloses the reassembly engine further includes a content addressable memory (CAM) having a plurality of entries for maintaining status information for each received fragment and for each original packet being reassembled from the fragments (see col. 3, lines 36-40); comprising:

- A source node to send packet fragments for a packet (see abstract, the reassembly engine further includes a content addressable memory having a plurality of entries for maintaining status information for each received fragment and for each original packet being reassembled from the

fragments), wherein each packet fragment includes a packet fragment header having a packet offset value (see col. 2, lines 52-54, the IP fragment offset field 114 informs the receiving party entity about the position of a fragment in the original packet), said offset value representing a position from a starting position to an ending position of packet (see col. 10, lines 37-38, the first fragment of this packet is identified as having the fragment offset value in field 114 of its header equal to zero) (see col. 10, lines 51, fragment offset is not equal to zero, then the frame is the last fragment of a fragment packet);

- Receiving packet fragment without reassembling packet fragment into packet (see col. 10, lines 11-12, a frame (fragments) that does not require reassembly, however, is assigned a unique index value);
- Wherein said intermediate node is further adapted to index offset values from each packet fragment in a verification table (CAM) to determine whether all packet fragments for said packet have been received, each of said offset values representing position from a starting position to an ending position of said packet, said intermediate node to index said offset values by position in verification table to identify any missing positions between said starting position and said ending position (see col. 10, lines 6-11, the logic 530 determines when all fragments of a reassembly (fragment packet) have been received...A frame that does not require reassembly, however, is assigned a unique index value) (see col. 7, lines

51-52, the controller 500 stores the received frame in the frame buffer 420 and creates an entry in the CAM subsystem 700 that identifies the fabric frame and its location in the buffer 420) (see col. 8, lines 17-20).

However, Malagrino et al. is silent to disclosing a source node to send packet fragments for a packet having a first address; and an intermediate node to receive packet fragments and to translate said first address to a second address.

Crow et al. discloses all the following subject matter: a system to manage packet fragmentation for address translation, comprising:

- A source node (see figure 1, host 24) to send packet fragments for a packet having a first address (see col. 5, lines 21-27);
- Receiving a plurality of packet fragments for a packet having a first address (see col. 5, lines 65-66, col. 6, lines 12-16);
- Wherein each packet fragment includes a packet fragment header (see figures 2A, 2B) having a packet offset value (48, 68) (see col 6, lines 17-18, for IP fragments, this may be detemined from the fragment offset 48 and/or 68, see figures 2A, 2B, see col. 4, lines 3-8, the fragment offset 48 identifies the number of the primary fragment 32, For the IP embodiment, the fragment offset is one identifying that the primary fragment 32 is the first fragment of the set. The fragment set ID and offset 46 and 48 allow fragments in the set to be identified, associated and ordered, see col. 4, lines 28-30, the fragment set ID and offset 66 and 68 allow the secondary fragment 34 to be associated with the primary fragment 32 and ordered within the fragment set);

- An intermediate node (see figure 1, router 16) translating first address into a second address (see col. 6, lines 28-29, col. 6, lines 63-65, col. 5, lines 39-41, col. 7, lines 16-20) without reassembling (see col. 6, lines 47-49, accordingly, secondary fragments 34 delivered out-of-order are translated as soon as the primary fragment 32 is received at the router 16) packet fragments into packet (col. 6, lines 60-63) and
- Determining whether all packet fragment (see figure 4) for packet have been received using said offset value (see col 6, lines 17-18, for IP fragments, this may be detemined from the fragment offset 48 and/or 68, see figures 2A, 2B, see col. 4, lines 3-8, the fragment offset 48 identifies the number of the primary fragment 32, For the IP embodiment, the fragment offset is one identifying that the primary fragment 32 is the first fragment of the set. The fragment set ID and offset 46 and 48 allow fragments in the set to be identified, associated and ordered, see col. 4, lines 28-30, the fragment set ID and offset 66 and 68 allow the secondary fragment 34 to be associated with the primary fragment 32 and ordered within the fragment set);
- Sending packet fragment using second address (see col. 6, lines 26-28).

Both Malagrino and Crow discloses packet segment. Crow recognizes receving a plurality for a packet having a first address; translating said first address into a second address; sending said packet fragments using said second address. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Malagrino with the teaching of Crow to translate said first address into a

second address; sending said packet fragments using said second address in order to process address translation out-of-order segments. Therefore, the combined system would have been enable the out-of-order segments need not be discard nor retransmitted. Thus, delay is minimized and network traffic reduced.

6. In the claim 11, Malagrino et al. discloses the reassembly engine further includes a content addressable memory (CAM) having a plurality of entries for maintaining status information for each received fragment and for each original packet being reassembled from the fragments (see col. 3, lines 36-40); comprising:

- A collection module to collect and store a plurality of packet fragments for a packet (see abstract, the reassembly engine further includes a content addressable memory having a plurality of entries for maintaining status information for each received fragment and for each original packet being reassembled from the fragments), wherein each packet fragment includes a packet fragment header having a packet offset value (see col. 2, lines 52-54, the IP fragment offset field 114 informs the receiving party entity about the position of a fragment in the original packet), said offset value representing a position from a starting position to an ending position of packet (see col. 10, lines 37-38, the first fragment of this packet is identified as having the fragment offset value in field 114 of its header equal to zero) (see col. 10, lines 51, fragment offset is not equal to zero, then the frame is the last fragment of a fragment packet);

- A verification module to verify all packet fragments for packet have been received (see col. 10, lines 7-8, the logic 530 determines when all fragments of a reassembly (fragment packet) have been received);
- Receiving packet fragment without reassembling packet fragment into packet (see col. 10, lines 11-12, a frame (fragments) that does not require reassembly, however, is assigned a unique index value);
- Verification module is to determine whether all fragments for packet have been received by indexing offset value by position in a verification table (CAM) to identify any missing positions between starting position and ending position (see col. 10, lines 6-11, the logic 530 determines when all fragments of a reassembly (fragment packet) have been received...A frame that does not require reassembly, however, is assigned a unique index value) (see col. 7, lines 51-52, the controller 500 stores the received frame in the frame buffer 420 and creates an entry in the CAM subsystem 700 that identifies the fabric frame and its location in the buffer 420) (see col. 8, lines 17-20).

However, Malagrino et al. is silent to disclosing a collection module to collect and store a plurality for a packet having a first address; a translation module to retrieve translation information from one said packet fragments and to translate said first address into a second address using translation information; sending said packet fragments using said second address.

Crow et al. discloses all the following subject matter: a system to manage packet fragmentation for address translation, comprising:

- Receiving a plurality of packet fragments for a packet having a first address (see col. 5, lines 65-66, col. 6, lines 12-16);
- Wherein each packet fragment includes a packet fragment header (see figures 2A, 2B) having a packet offset value (48, 68) (see col 6, lines 17-18, for IP fragments, this may be detemined from the fragment offset 48 and/or 68, see figures 2A, 2B, see col. 4, lines 3-8, the fragment offset 48 identifies the number of the primary fragment 32, For the IP embodiment, the fragment offset is one identifying that the primary fragment 32 is the first fragment of the set. The fragment set ID and offset 46 and 48 allow fragments in the set to be identified, associated and ordered, see col. 4, lines 28-30, the fragment set ID and offset 66 and 68 allow the secondary fragment 34 to be associated with the primary fragment 32 and ordered within the fragment set);
- Translating first address into a second address (see col. 6, lines 28-29, col. 6, lines 63-65, col. 5, lines 39-41, col. 7, lines 16-20) without reassembling (see col. 6, lines 47-49, accordingly, secondary fragments 34 delivered out-of-order are translated as soon as the primary fragment 32 is received at the router 16) packet fragments into packet (col. 6, lines 60-63) and
- Determining whether all packet fragment (see figure 4) for packet have been received using said offset value (see col 6, lines 17-18, for IP fragments, this may be detemined from the fragment offset 48 and/or 68, see figures 2A, 2B, see col.

4, lines 3-8, the fragment offset 48 identifies the number of the primary fragment 32, For the IP embodiment, the fragment offset is one identifying that the primary fragment 32 is the first fragment of the set. The fragment set ID and offset 46 and 48 allow fragments in the set to be identified, associated and ordered, see col. 4, lines 28-30, the fragment set ID and offset 66 and 68 allow the secondary fragment 34 to be associated with the primary fragment 32 and ordered within the fragment set);

- Sending packet fragment using second address (see col. 6, lines 26-28).

Both Malagrino and Crow discloses packet segment. Crow recognizes receving a plurality for a packet having a first address; translating said first address into a second address; sending said packet fragments using said second address. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Malagrino with the teaching of Crow to translate said first address into a second address; sending said packet fragments using said second address in order to process address translation out-of-order segments. Therefore, the combined system would have been enable the out-of-order segments need not be discard nor retransmitted. Thus, delay is minimized and network traffic reduced.

7. In the claim 12, Melagrino et al. discloses the limitations of claim 11 above. However, Melagrino et al. is silent to disclosing a communication module to send packet fragments to second address

Crow et al. discloses a communication module to send packet fragments to second address (see col. 6, lines 28-29, col. 6, lines 63-65, col. 5, lines 39-41, col. 7, lines 16-20) (see col. 6, lines 47-49) (col. 6, lines 60-63).

Both Malagrino and Crow discloses packet segment. Crow recognizes a communication module to send packet fragments to second address. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Malagrino with the teaching of Crow to provide a communication module to send packet fragments to second address in order to process address translation out-of-order segments. Therefore, the combined system would have been enable the out-of-order segments need not be discard nor retransmitted. Thus, delay is minimized and network traffic reduced.

8. In the claim 13, Malagrino et al. discloses the reassembly engine further includes a content addressable memory (CAM) having a plurality of entries for maintaining status information for each received fragment and for each original packet being reassembled from the fragments (see col. 3, lines 36-40); comprising:

- Receiving a plurality of packet fragments for a packet (see abstract, the reassembly engine further includes a content addressable memory having a plurality of entries for maintaining status information for each received fragment and for each original packet being reassembled from the fragments), wherein each packet fragment includes a packet fragment header having a packet offset value (see col. 2, lines 52-54, the IP fragment offset field 114 informs the receiving party entity about the

position of a fragment in the original packet), said offset value representing a position from a starting position to an ending position of packet (see col. 10, lines 37-38, the first fragment of this packet is identified as having the fragment offset value in field 114 of its header equal to zero) (see col. 10, lines 51, fragment offset is not equal to zero, then the frame is the last fragment of a fragment packet);

- Receiving packet fragment without reassembling packet fragment into packet (see col. 10, lines 11-12, a frame (fragments) that does not require reassembly, however, is assigned a unique index value);
- Determining whether all fragments for packet have been received by indexing offset value by position in a verification table (CAM) to identify any missing positions between starting position and ending position (see col. 10, lines 6-11, the logic 530 determines when all fragments of a reassembly (fragment packet) have been received...A frame that does not require reassembly, however, is assigned a unique index value) (see col. 7, lines 51-52, the controller 500 stores the received frame in the frame buffer 420 and creates an entry in the CAM subsystem 700 that identifies the fabric frame and its location in the buffer 420) (see col. 8, lines 17-20).

However, Malagrino et al. is silent to disclosing receving a plurality for a packet having a first address; translating said first address into a second address; sending said packet fragments using said second address.

Crow et al. discloses all the following subject matter: a system to manage packet fragmentation for address translation, comprising:

- A source node (24) to send packet fragments for a packet having a first address (see col. 6, lines 28-29, col. 6, lines 63-65, col. 5, lines 39-41, col. 7, lines 16-20) (see col. 6, lines 47-49) (col. 6, lines 60-63);
- Receiving a plurality of packet fragments for a packet having a first address (see col. 5, lines 65-66, col. 6, lines 12-16);
- Wherein each packet fragment includes a packet fragment header (see figures 2A, 2B) having a packet offset value (48, 68) (see col 6, lines 17-18, for IP fragments, this may be detemined from the fragment offset 48 and/or 68, see figures 2A, 2B, see col. 4, lines 3-8, the fragment offset 48 identifies the number of the primary fragment 32, For the IP embodiment, the fragment offset is one identifying that the primary fragment 32 is the first fragment of the set. The fragment set ID and offset 46 and 48 allow fragments in the set to be identified, associated and ordered, see col. 4, lines 28-30, the fragment set ID and offset 66 and 68 allow the secondary fragment 34 to be associated with the primary fragment 32 and ordered within the fragment set);
- An intermediate node (see figure 1, router 16) translating first address into a second address (see col. 6, lines 28-29, col. 6, lines 63-65, col. 5, lines 39-41, col. 7, lines 16-20) without reassembling (see col. 6, lines 47-49, accordingly, secondary fragments 34 delivered out-of-order are translated as soon as the

primary fragment 32 is received at the router 16) packet fragments into packet (col. 6, lines 60-63) and

- Determining whether all packet fragment (see figure 4) for packet have been received using said offset value (see col 6, lines 17-18, for IP fragments, this may be detemined from the fragment offset 48 and/or 68, see figures 2A, 2B, see col. 4, lines 3-8, the fragment offset 48 identifies the number of the primary fragment 32, For the IP embodiment, the fragment offset is one identifying that the primary fragment 32 is the first fragment of the set. The fragment set ID and offset 46 and 48 allow fragments in the set to be identified, associated and ordered, see col. 4, lines 28-30, the fragment set ID and offset 66 and 68 allow the secondary fragment 34 to be associated with the primary fragment 32 and ordered within the fragment set);
- Sending packet fragment using second address (see col. 6, lines 26-28).

Both Malagrino and Crow discloses packet segment. Crow recognizes receving a plurality for a packet having a first address; translating said first address into a second address; sending said packet fragments using said second address. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Malagrino with the teaching of Crow to translate said first address into a second address; sending said packet fragments using said second address in order to process address translation out-of-order segments. Therefore, the combined system would have been enable the out-of-order segments need not be discard nor retransmitted. Thus, delay is minimized and network traffic reduced.

9. In the claim 14, Melagrino et al. discloses the limitations of claim 13 above.

However, Melagrino et al. is silent to disclosing a destination node (destination port) having second address to receive packet fragments and reassemble packet fragments into packet

Crow et al. discloses a destination node (destination port) having second address to receive packet fragments and reassemble packet fragments into packet (see col. 6, lines 28-29, col. 6, lines 63-65, col. 5, lines 39-41, col. 7, lines 16-20) (see col. 6, lines 47-49) (col. 6, lines 60-63).

Both Malagrino and Crow discloses packet segment. Crow recognizes a destination node (destination port) having second address to receive packet fragments and reassemble packet fragments into packet. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Malagrino with the teaching of Crow to provide a destination node (destination port) having second address to receive packet fragments and reassemble packet fragments into packet in order to process address translation out-of-order segments. Therefore, the combined system would have been enable the out-of-order segments need not be discard nor retransmitted. Thus, delay is minimized and network traffic reduced.

10. In the claim 15, Malagrino et al. discloses the reassembly engine further includes a content addressable memory (CAM) having a plurality of entries for maintaining status information for each received fragment and for each original packet being reassembled from the fragments (see col. 3, lines 36-40); comprising:

- A computer platform adapted to manage packet fragmentation (see abstract, the reassembly engine further includes a content addressable memory having a plurality of entries for maintaining status information for each received fragment and for each original packet being reassembled from the fragments), wherein each packet fragment includes a packet fragment header having a packet offset value (see col. 2, lines 52-54, the IP fragment offset field 114 informs the receiving party entity about the position of a fragment in the original packet), said offset value representing a position from a starting position to an ending position of packet (see col. 10, lines 37-38, the first fragment of this packet is identified as having the fragment offset value in field 114 of its header equal to zero) (see col. 10, lines 51, fragment offset is not equal to zero, then the frame is the last fragment of a fragment packet);
- Receiving packet fragment without reassembling packet fragment into packet (see col. 10, lines 11-12, a frame (fragments) that does not require reassembly, however, is assigned a unique index value);
- Wherein said platform is further adapted to index offset values from each packet fragment in a verification table (CAM) to determine whether all packet fragments for said packet have been received, each of said offset values representing position from a starting position to an ending position of said packet, said intermediate node to index said offset values by position in verification table to identify any missing positions between said

starting position and said ending position (see col. 10, lines 6-11, the logic 530 determines when all fragments of a reassembly (fragment packet) have been received...A frame that does not require reassembly, however, is assigned a unique index value) (see col. 7, lines 51-52, the controller 500 stores the received frame in the frame buffer 420 and creates an entry in the CAM subsystem 700 that identifies the fabric frame and its location in the buffer 420) (see col. 8, lines 17-20).

However, Malagrino et al. is silent to disclosing a source node to send packet fragments for a packet having a first address; and an intermediate node to receive packet fragments and to translate said first address to a second address.

Crow et al. discloses all the following subject matter: a system to manage packet fragmentation for address translation, comprising:

- Said platform being further adapted to receive a plurality of packet fragments for a packet having a first address (see col. 5, lines 65-66, col. 6, lines 12-16);
- Wherein each packet fragment includes a packet fragment header (see figures 2A, 2B) having a packet offset value (48, 68) (see col 6, lines 17-18, for IP fragments, this may be detemined from the fragment offset 48 and/or 68, see figures 2A, 2B, see col. 4, lines 3-8, the fragment offset 48 identifies the number of the primary fragment 32, For the IP embodiment, the fragment offset is one identifying that the primary fragment 32 is the first fragment of the set. The fragment set ID and offset 46 and 48 allow fragments in the set to be identified, associated and ordered, see col. 4, lines 28-30, the fragment set ID and offset 66

and 68 allow the secondary fragment 34 to be associated with the primary fragment 32 and ordered within the fragment set);

- Translating first address into a second address (see col. 6, lines 28-29, col. 6, lines 63-65, col. 5, lines 39-41, col. 7, lines 16-20) without reassembling (see col. 6, lines 47-49) packet fragments into packet (col. 6, lines 60-63) and
- Determining whether all packet fragment (see figure 4) for packet have been received using said offset value (see col 6, lines 17-18, for IP fragments, this may be detemined from the fragment offset 48 and/or 68, see figures 2A, 2B, see col. 4, lines 3-8, the fragment offset 48 identifies the number of the primary fragment 32, For the IP embodiment, the fragment offset is one identifying that the primary fragment 32 is the first fragment of the set. The fragment set ID and offset 46 and 48 allow fragments in the set to be identified, associated and ordered, see col. 4, lines 28-30, the fragment set ID and offset 66 and 68 allow the secondary fragment 34 to be associated with the primary fragment 32 and ordered within the fragment set);
- Sending packet fragment using second address (see col. 6, lines 26-28).

Both Malagrino and Crow discloses packet segment. Crow recognizes receving a plurality for a packet having a first address; translating said first address into a second address; sending said packet fragments using said second address. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Malagrino with the teaching of Crow to translate said first address into a second address; sending said packet fragments using said second address in order to

process address translation out-of-order segments. Therefore, the combined system would have been enable the out-of-order segments need not be discard nor retransmitted. Thus, delay is minimized and network traffic reduced.

11. In the claim 18, Malagrino et al. discloses the reassembly engine further includes a content addressable memory (CAM) having a plurality of entries for maintaining status information for each received fragment and for each original packet being reassembled from the fragments (see col. 3, lines 36-40); comprising:

- A storage medium; said storage medium including stored instructions that, when executed by a processor, result in receiving a plurality of packet fragments for a packet (see abstract, the reassembly engine further includes a content addressable memory having a plurality of entries for maintaining status information for each received fragment and for each original packet being reassembled from the fragments), wherein each packet fragment includes a packet fragment header having a packet offset value (see col. 2, lines 52-54, the IP fragment offset field 114 informs the receiving party entity about the position of a fragment in the original packet), said offset value representing a position from a starting position to an ending position of packet (see col. 10, lines 37-38, the first fragment of this packet is identified as having the fragment offset value in field 114 of its header equal to zero) (see col. 10, lines 51, fragment offset is not equal to zero, then the frame is the last fragment of a fragment packet);

- Receiving packet fragment without reassembling packet fragment into packet (see col. 10, lines 11-12, a frame (fragments) that does not require reassembly, however, is assigned a unique index value);
- Wherein the stored instructions, when executed by a processor, further result in indexing offset values from each packet fragment in a verification table (CAM) to determine whether all packet fragments for said packet have been received, each of said offset values representing position from a starting position to an ending position of said packet, said intermediate node to index said offset values by position in verification table to identify any missing positions between said starting position and said ending position (see col. 10, lines 6-11, the logic 530 determines when all fragments of a reassembly (fragment packet) have been received...A frame that does not require reassembly, however, is assigned a unique index value) (see col. 7, lines 51-52, the controller 500 stores the received frame in the frame buffer 420 and creates an entry in the CAM subsystem 700 that identifies the fabric frame and its location in the buffer 420) (see col. 8, lines 17-20).

However, Malagrino et al. is silent to disclosing a source node to send packet fragments for a packet having a first address; and an intermediate node to receive packet fragments and to translate said first address to a second address.

Crow et al. discloses all the following subject matter: a system to manage packet fragmentation for address translation, comprising:

- Receiving a plurality of packet fragments for a packet having a first address (see col. 5, lines 65-66, col. 6, lines 12-16);
- Wherein each packet fragment includes a packet fragment header (see figures 2A, 2B) having a packet offset value (48, 68) (see col 6, lines 17-18, for IP fragments, this may be detemined from the fragment offset 48 and/or 68, see figures 2A, 2B, see col. 4, lines 3-8, the fragment offset 48 identifies the number of the primary fragment 32, For the IP embodiment, the fragment offset is one identifying that the primary fragment 32 is the first fragment of the set. The fragment set ID and offset 46 and 48 allow fragments in the set to be identified, associated and ordered, see col. 4, lines 28-30, the fragment set ID and offset 66 and 68 allow the secondary fragment 34 to be associated with the primary fragment 32 and ordered within the fragment set);
- Translating first address into a second address (see col. 6, lines 28-29, col. 6, lines 63-65, col. 5, lines 39-41, col. 7, lines 16-20) without reassembling (see col. 6, lines 47-49) packet fragments into packet (col. 6, lines 60-63) and
- Determining whether all packet fragment (see figure 4) for packet have been received using said offset value (see col 6, lines 17-18, for IP fragments, this may be detemined from the fragment offset 48 and/or 68, see figures 2A, 2B, see col. 4, lines 3-8, the fragment offset 48 identifies the number of the primary fragment 32, For the IP embodiment, the fragment offset is one identifying that the primary fragment 32 is the first fragment of the set. The fragment set ID and offset 46 and 48 allow fragments in the set to be identified, associated and ordered, see col. 4,

lines 28-30, the fragment set ID and offset 66 and 68 allow the secondary fragment 34 to be associated with the primary fragment 32 and ordered within the fragment set);

- Sending packet fragment using second address (see col. 6, lines 26-28).

Both Malagrino and Crow discloses packet segment. Crow recognizes receving a plurality for a packet having a first address; translating said first address into a second address; sending said packet fragments using said second address. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Malagrino with the teaching of Crow to translate said first address into a second address; sending said packet fragments using said second address in order to process address translation out-of-order segments. Therefore, the combined system would have been enable the out-of-order segments need not be discard nor retransmitted. Thus, delay is minimized and network traffic reduced.

12. In the claims 2, 16, 19, Malagrino et al. discloses identifying said packet fragment having a packet header, with said packet header having packet identifier, and packet length (see figure 1, col. 2, lines 40-53).

However, Malagrino et al. is silent to disclosing retrieving translation information from said packet header; and translating said first address into said second address using said translation information.

Crow et al. discloses identifying packet fragment having packet header (see figure 2A, 2B, 3, 4), with packet header having a packet identifier, translation information; retrieving translation information from packet header and translating first

address into second address using translation information (see col. 4, lines 9-10, col. 5, lines 68 – col. 6, line 1, col. 5, lines 45-48, col. 6, lines 14-16, lines 20-25)

Both Malagrino and Crow discloses fragment packet in TCP/IP network. Crow discloses identifying packet fragment having packet header with packet header having a packet identifier, translation information; retrieving translation information from packet header and translating first address into second address using translation information. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Malagrino with the teaching of Crow to identify packet fragment having packet header with packet header having a packet identifier, translation information; retrieving translation information from packet header in order to translate first address into second address using translation information.

13. In the claim 3, Malagrino et al. discloses the limitations of claim 2 above. However, Malagrino et al. is silent to disclosing translation information comprises a port number.

Crow et al. discloses translation information comprises a port number (see col. 5, lines 2-4).

Both Malagrino and Crow discloses fragment packet in TCP/IP network. Crow discloses translation information comprises a port number. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Malagrino with the teaching of Crow to provide translation information comprises a port number in order to translate first address into second address using translation information.

14. In the claim 4, Malagrino et al. discloses wherein each of packet fragment includes packet fragment header having packet identifier, and a more bit (fragment set ID), and determining that storing each fragment having packet identifier and more bit set to predeterrmined values (see figure 1, col. 1, lines 40-52, col. 10, lines 6-10).

15. In the claims 5, 17, 20, Melagrino discloses each offset value represents a position for packet fragment in packet, and determining whether all packet fragments for packet have been received using offset values comprises: collecting offset values; retrieving packet length; and determining whether all positions for packet are filled by collected offset values using packet length (see figure 1, col. 1, lines 40-52, col. 10, lines 6-10).

16. In the claims 6, 7, 8, 9, Melagrino et al. discloses wherein each packet fragment includes a packet fragment header having packet identifier, a more bit (fragment set ID) and an offset value), and determining comprises: storing (CAM) each packet fragment having packet identifier and offset value is a value other than zero; and determining whether all packet fragments for packet have been received using offset values (see col. 1, lines 40-52, col. 7, lines 51-53, col. 8, lines 17-20, col. 9, lines 53-56, col. 10, lines 36-37, lines 40-42).

17. In the claims 10, 21, Melagrino et al. discloses detecting an occurrence of a terminating condition prior to receiving all packet fragments for packet; and releasing packet fragments in accordance to manage packet (see col. 10, lines 40-42).

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHUONG T. HO whose telephone number is (571) 272-3133. The examiner can normally be reached on 8:00 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

05/08/06

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